Remarks:

Claims 1-14 are pending in this application. Claims 1-4 are rejected. Claims 5-14 are withdrawn from consideration. Claim 1 was canceled; claims 2 - 4 have been amended in various particulars as indicated hereinabove. New Claim 15 and have been added to alternatively define Applicant's invention. New Claim 15 is the same as old claim 1 rewritten in better form.

New Claims 16 – 17 fully supported by specification. No new matter was added.

Claims 1- 4 were rejected under 35 U.S.C. 103(a) over Chung et al (US Patent # 5,722,037). This rejection is respectfully traversed for the following reasons.

For an obviousness rejection to be proper, the Patent Office must meet the burden of establishing a prima facie case of obviousness. The Patent Office must meet the burden of establishing that all elements of the invention are disclosed in the cited publications, which must have a suggestion, teaching or motivation for one of ordinary skill in the art to modify a reference or combined references. *In re Sang Su Lee, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002).*

The cited publications should explicitly provide a reasonable expectation of success, determined from the position of one of ordinary skill in the art at the time the invention was made. *In re Fine, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); In re Wilson, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970).*

Claim 1 is rejected under 35 USC 103 as being unpatentable over Chung et al (US Patent # 5,722,037).

The Examiner said in the paragraph 2.c of his letter that complex carbides such as Ti_3AlC_2, Ti_2AlC, V_2C, and other are also be formed within the matrix according to the US Patent 5,772,037. First of all, authors of this patent referenced X-ray spectrograms which demonstrated that only TiC precipitated are formed in their matrix and no other particles.

Secondly, and most important, we prepared and introduced all complex carbide particles in the initial mixture of powders BEFORE SINTERING, and this is a key point of our invention because **only our approach can result to the manufacture of titanium matrix composites with controllable microstructure** and high properties. Also we added a combination of particles (a) complex carbides and (b) borides, aluminides and even such intermetallics as $TiAlV_2$ or $TiCr_2$ (see amended claim, 4 and new claims 15- 17).

Additionally, we prepared and introduced in the blend particles of Al-V-Fe master alloy (see amended claim, 4 and new claims 15- 17) which plays an unique role in the manufacturing process as mentioned in the Detailed Description and Examples of our Application. The primary art Chung's patent does not contain a word about these particles.

All above mentioned particles have different particle size that allow to control their solubility in the matrix alloy and final porosity, as well as provide effective reinforcement of the matrix.

Also we added a combination of particles (a) complex carbides and (b) borides, aluminides and even such intermetallics as $TiAlV_2$ or $TiCr_2$ (see amended claims 2- 4 and and new claims 15-17).

Additionally, we prepared and introduced in the blend particles of Al-V-Fe master alloy (see claim amended claim, 4 and new claims 15- 17) which plays an unique role in the manufacturing process as mentioned in the Detailed Description and Examples of our Application. The primary art Chung's patent does not contain a word about these particles.

All above mentioned particles have different particle size that allow to control their solubility in the matrix alloy and final porosity, as well as provide effective reinforcement of the matrix. The Examiner should bring evidences about using or at least formation in the final products of the prior art such particles as $Ti_4Cr_3C_6$, $V_2Cr_4C_3$, Cr_3C_2, Al_4SiC_4, and all others which are presented in our amended claims 2 – 4 and new claims 15- 17 instead of general statement that all such particles may be formed in the matrix alloy spontaneously during sintering. No, they cannot be formed.

Also we added a combination of particles (a) complex carbides and (b) borides, aluminides and even such intermetallics as $TiAlV_2$ or $TiCr_2$ (see amended claims 2- 4 and new claims 15-17). Therefore the Applicant cannot agree with the Examiner's opinion that the claimed invention be "obvious".

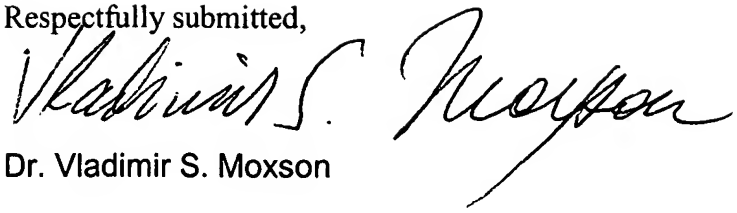
It is respectfully submitted that applicants' comprehensive discussion of the relied upon in the rejection and of the differences between applicants' claims and the prior art provides a firm basis for the conclusion that applicants' claims are directed to subject matter which is not obvious in view of the prior art.

Applicants believe that the present application is in condition for allowance.

A Notice of Allowance is respectfully solicited.

Should any questions arise, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,



Dr. Vladimir S. Moxson

ADMA Products, Inc.
1890 Georgetown Rd.
Hudson, OH 44236